

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): An image pickup device
2 comprising:
3 a solid-state imaging element;
4 driving means for driving said solid-state imaging
5 element;
6 overflow level setting means for controlling a
7 substrate bias voltage of said solid-state imaging
8 element in order to variably set an overflow level of a
9 charge accumulating portion of the solid-state imaging
10 element, the overflow level being determined according to
11 the substrate bias voltage; and
12 reading control means capable of reading pixel
13 charges as an output signal by means of said driving
14 means in a normal driving mode in which individual pixel
15 charges of said solid-state imaging element are read
16 separately, ~~one at a time,~~ or in an n-addition driving
17 mode in which a specific number "n" of pixel charges in
18 the vertical direction of said solid-state imaging
19 element are read and added by a horizontal transfer path
20 ~~and then read,~~ wherein
21 said overflow level setting means controls said
22 substrate bias voltage ~~to a different value, depending on~~
23 ~~whether the reading control means reads the pixel charges~~
24 ~~in said normal driving mode or in said n-addition driving~~
25 ~~mode~~ such that the substrate bias voltage in the
26 n-addition driving mode is a value obtained by
27 multiplying (k/n) with the substrate bias voltage in the
28 normal driving mode, k being SatH/OFL, SatH being a
29 saturated level of the horizontal transfer path, and OFL
30 being an overflow level of the charge accumulating
31 portion.

1 Claim 2 (canceled)

1 Claim 3 (original): The image pickup device according to
2 claim 1, further comprising storage means in which
3 adjustment information about said substrate bias voltage
4 in said n-addition driving mode created based on a
5 measured value of the relationship between the overflow
6 level of said charge accumulating portion of said
7 solid-state imaging element and the substrate bias
8 voltage is stored beforehand, and wherein
9 said overflow level setting means controls said
10 substrate bias voltage in said n-addition driving mode
11 based on the adjustment information in said storage
12 means.

Claims 4-36 (canceled)